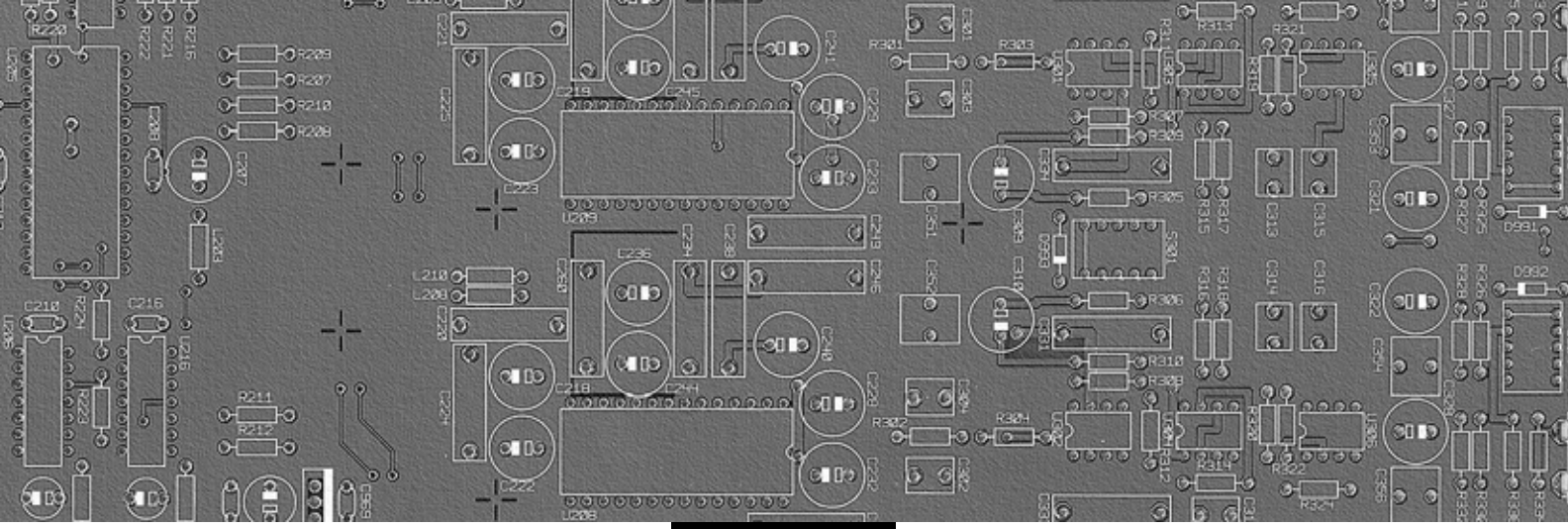


ROTEL

Owner's Manual
Manuel d'utilisation
Bedienungsanleitung
Manuale di Istruzioni
Manual de Instrucciones
Gebruiksaanwijzing
Instruktionsbok
Инструкция По Эксплуатации

RB-1091

Mono Power Amplifier
Amplificateur de Puissance Monophonique
Mono-Endstufe
Finale di Potenza Mono
Etapa de Potencia Monofónica
Mono Eindversterker
Monoslutsteg
Моно усилитель мощности

Important Safety Information

WARNING: There are no user serviceable parts inside. Refer all servicing to qualified service personnel.

WARNING: To reduce the risk of fire or electric shock, be sure that the apparatus shall not be exposed to dripping or splashing and that no objects filled with liquids, such as vases, shall be placed on the apparatus.

Do not allow foreign objects to get into the enclosure. If the unit is exposed to moisture, or a foreign object gets into the enclosure, immediately disconnect the power cord from the wall. Take the unit to a qualified service person for inspection and necessary repairs.

Read all the instructions before connecting or operating the component. Keep this manual so you can refer to these safety instructions.

Heed all warnings and safety information in these instructions and on the product itself. Follow all op erating instructions.

Clean the enclosure only with a dry cloth or a vacuum cleaner.

You must allow 10 cm or 4 inches of unobstructed clearance around the unit. Do not place the unit on a bed, sofa, rug, or similar surface that could block the ventilation slots. If the component is placed in a bookcase or cabinet, there must be ventilation of the cabinet to allow proper cooling.

Keep the component away from radiators, heat registers, stoves, or any other appliance that produces heat.

The unit must be connected to a power supply only of the type and voltage specified on the rear panel of the unit.

Connect the component to the power outlet only with the supplied power supply cable or an exact equivalent. Do not modify the supplied cable in any way. Do not attempt to defeat grounding and/or polarization provisions. Do not use extension cords.

Do not route the power cord where it will be crushed, pinched, bent at severe angles, exposed to heat, or damaged in any way. Pay particular attention to the power cord at the plug and where it exits the back of the unit.

Main plug is used as the mains disconnect device and shall remain ready accessible.

The power cord should be unplugged from the wall outlet if the unit is to be left unused for a long period of time.

Immediately stop using the component and have it inspected and/or serviced by a qualified service agency if:

- The power supply cord or plug has been damaged.
- Objects have fallen or liquid has been spilled into the unit.
- The unit has been exposed to rain.
- The unit shows signs of improper operation
- The unit has been dropped or damaged in any way

Please use Class 2 Wiring when connecting the speaker terminals of the unit to ensure proper insulation and minimize the risk of electrical shock.

Place the unit on a fixed, level surface strong enough to support its weight. Do not place it on a moveable cart that could tip over.

This symbol means that this unit is double insulated. An earth connection is not required.

CAUTION
RISK OF ELECTRIC SHOCK DO NOT OPEN

CAUTION: TO REDUCE THE RISK OF ELECTRIC SHOCK, DO NOT REMOVE COVER. NO USER-SERVICEABLE PARTS INSIDE REFER SERVICING TO QUALIFIED SERVICE PERSONNEL.

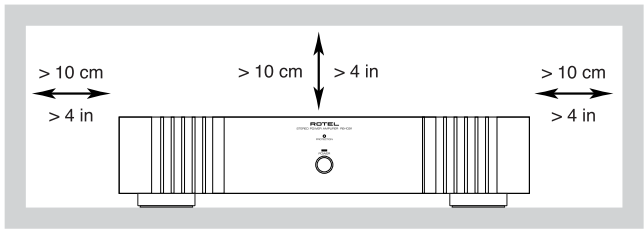
APPLICABLE FOR USA, CANADA OR WHERE APPROVED FOR THE USAGE

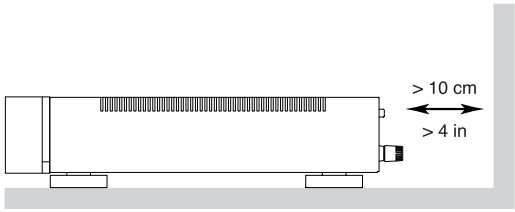
CAUTION: TO PREVENT ELECTRIC SHOCK, MATCH WIDE BLADE OF PLUG TO WIDE SLOT. INSERT FULLY.

ATTENTION: POUR EVITER LES CHOCS ELECTRIQUES, INTRODUIRE LA LAME LA PLUS LARGE DE LA FICHE DANS LA BORNE CORRESPONDANTE DE LA PRISE ET POUSSER JUSQU AU FOND.

This symbol is to alert the user to the presence of uninsulated dangerous voltages inside the product's enclosure that may constitute a risk of electric shock.

This symbol is to alert the user to important operating and maintenance (service) instructions in this manual and literature accompanying the product.





Rotel products are designed to comply with international directives on the Restriction of Hazardous Substances (RoHS) in electrical and electronic equipment and the disposal of Waste Electrical and Electronic Equipment (WEEE). The crossed wheelie bin symbol indicates compliance and that the products must be appropriately recycled or processed in accordance with these directives.

CE

Figure 1: Controls and Connections
Commandes et branchements
Bedienelemente und Anschlüsse
Pannello frontale e posteriore
Controles y Conexiones
De bedieningsorganen en aansluitingen
Kontroller och anslutningar
Органы управления и разъемы для подсоединения

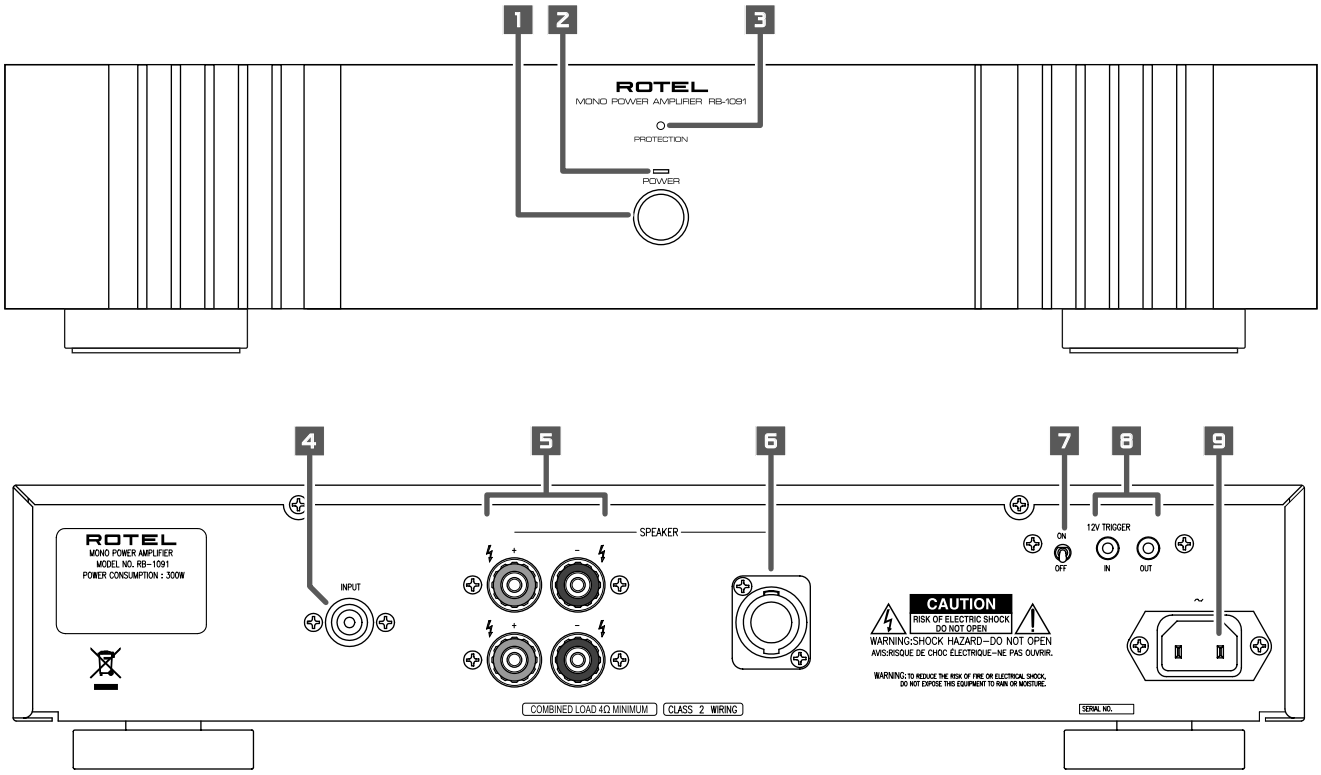


Figure 2: Input and Output Connections

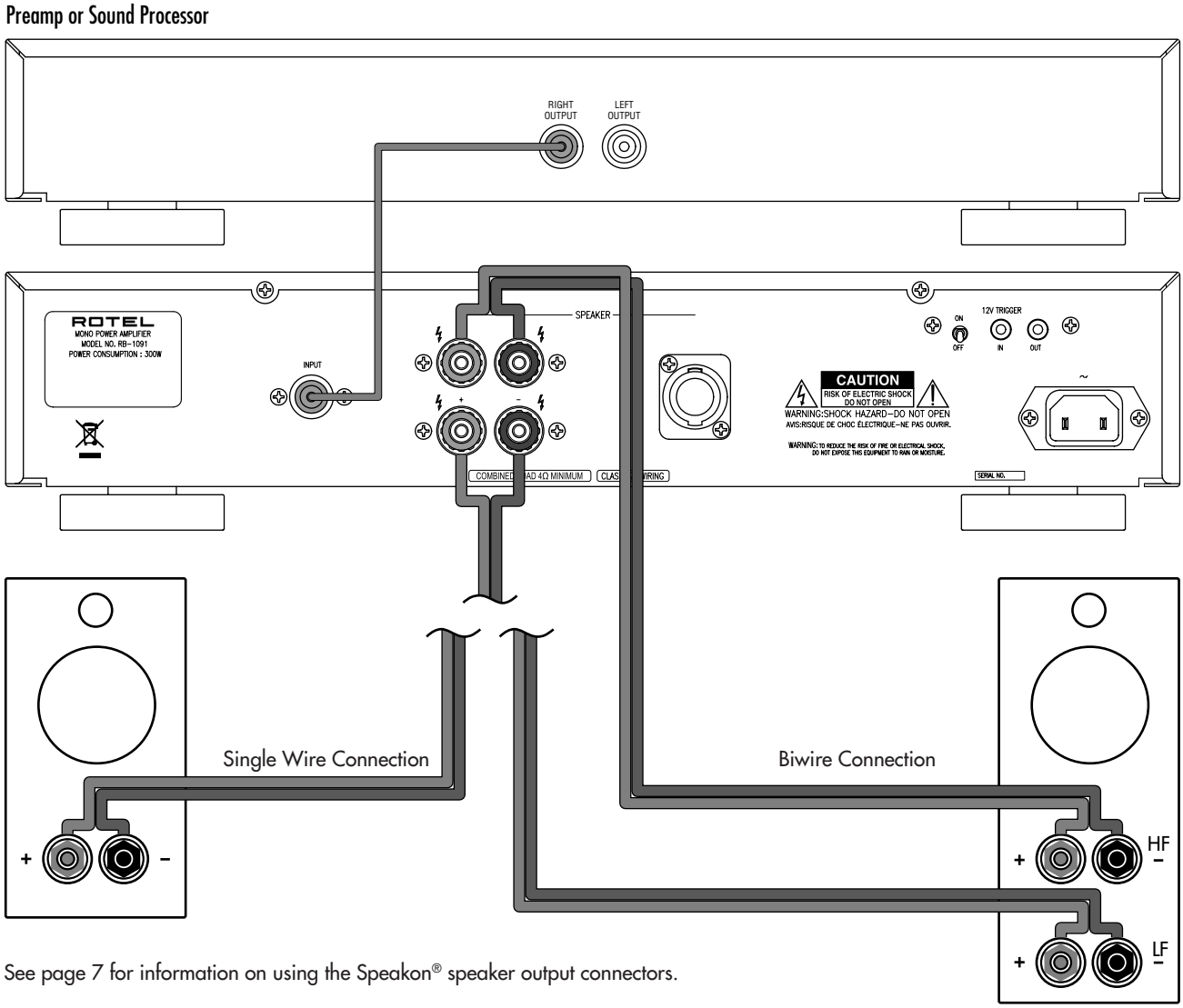
Important Notes

When making connections be sure to:

- ✔ Turn off **all** the components in the system **before** hooking up **any** components, including loudspeakers.
- ✔ Turn off **all** components in the system **before** changing **any** of the connections to the system.

It is also recommended that you:

- ✔ Turn the volume control of the amplifier all the way down **before** the amplifier is turned **on or off**.



See page 7 for information on using the Speakon® speaker output connectors.

Contents

Important Safety Information **2**
Figure 1: Controls and Connections 3
Figure 2: Input and Output Connections 4
About Rotel **5**
Getting Started **5**
Operating Features 5
A Few Precautions 5
Placement 5
AC Power and Control **6**
AC Power Input 9 6
Power Switch and Indicator 1 2 6
Turn On/Off Mode Selector 7 6
+12V Trigger Input and Output 8 6
Protection Indicators 3 ..... **6**
Input Signal Connection 4 ..... **6**
Speaker Connection **7**
Speaker Selection 7
Speaker Wire Selection 7
Polarity and Phasing 7
Conventional Speaker Wire Connections 5 7
Speakon® Speaker Connection 6 7
Troubleshooting **8**
Front Panel Power Indicator Is Not Lit 8
No Sound 8
Protection Indicator Is Lit 8
Specifications **8**

About Rotel

A family whose passionate interest in music led them to manufacture high fidelity components of uncompromising quality founded Rotel over 40 years ago. Over the years that passion has remained undiminished and the goal of providing exceptional value for audiophiles and music lovers regardless of their budget, is shared by all Rotel employees.

The engineers work as a close team, listening to, and fine tuning each new product until it reaches their exacting musical standards. They are free to choose components from around the world in order to make that product the best they can. You are likely to find capacitors from the United Kingdom and Germany, semiconductors from Japan or the United States, and toroidal power transformers manufactured in Rotel's own factory.

Rotel's reputation for excellence has been earned through hundreds of good reviews and awards from the most respected reviewers in the industry, who listen to music every day. Their comments keep the company true to its goal – the pursuit of equipment that is musical, reliable and affordable.

All of us at Rotel thank you for buying this product and hope it will bring you many hours of enjoyment.

Getting Started

Thank you for purchasing the Rotel RB-1091 Mono Power Amplifier. When used in a high-quality music or home theater system, your Rotel amplifier will provide years of musical enjoyment.

The RB-1091 is a sophisticated single-channel power amplifier. It's digital amplifier circuitry, switching power supply, premium components, and Rotel's Balanced Design ensure superb sound quality. High current capability allows the RB-1091 to drive difficult speaker loads with ease.

Operating Features

- Single channel amplifier.
- User selectable power on/off configuration: manual or controlled by remote 12 volt trigger signal.
- Protection circuitry with front panel indicator.
- Dual binding post and Speakon® speaker output.

A Few Precautions

Please read this manual carefully. In addition to installation and operating instructions, it provides information on various RB-1091 system configurations. Please contact your authorized Rotel dealer for answers to any questions you might have. In addition, all of us at Rotel welcome your questions and comments.

Save the RB-1091 shipping carton and packing material for future use. Shipping or moving the RB-1091 in anything other than the original packing material may result in severe damage to your amplifier.

Be sure to keep the original sales receipt. It is your best record of the date of purchase, which you will need in the event warranty service is ever required.

Placement

The RB-1091 generates heat as part of its normal operation. The heat sinks and ventilation openings in the amplifier are designed to dissipate this heat. The ventilation slots in the top cover must be unobstructed. There should be 10 cm (4 inches) of clearance around the chassis, and reasonable airflow through the installation location, to prevent the amplifier from overheating. Likewise, remember the weight of the amplifier when you select an installation location. Make sure that the shelf or cabinet can support its weight.

AC Power and Control

AC Power Input 9

The RB-1091 is supplied with the proper AC power cord. Use only this cord or an exact equivalent. Do not use an extension cord. A heavy duty multi-tap power outlet strip may be used, but only if it is rated to handle the current demand of the RB-1091.

Be sure the Power Switch on the front panel of the RB-1091 is turned off. Then, plug one end of the cord into the AC power connector 9 on the back panel of the amplifier. Plug the other end into an appropriate AC outlet.

Your RB-1091 is configured at the factory for the proper AC line voltage in the country where you purchased it (USA: 120 volts/60 Hz, Europe: 230 volts/50 Hz). The AC line configuration is noted on a label on the back panel.

NOTE: *Should you move your RB-1091 to another country, it is possible to configure your amplifier for use on a different line voltage. Do not attempt to perform this conversion yourself. Opening the enclosure of the RB-1091 exposes you to dangerous voltages. Consult a qualified technician or the Rotel factory service department for information.*

If you are going to be away from home for an extended period of time, it is a sensible precaution to unplug your amplifier.

Power Switch and Indicator 1 2

The Power Switch is located on the front panel. To turn the amplifier on (or to activate either of the optional automatic power-on modes), push the switch in. The LED indicator above the switch will light, indicating that the amplifier is turned on. To turn the amplifier off, push the button again and return it to the out position.

Turn On/Off Mode Selector 7

The RB-1091 can be turned on and off automatically by using its "12V Trigger" system. The Turn On/Off Mode Selector switch is used to select which method is used.

- With the switch in the OFF position, the amplifier is turned on or off manually using the front panel power switch.

- With the switch in the 12V TRIG. position, the amplifier is turned on automatically when a 12 volt trigger signal is applied to the 3.5mm Jack labeled IN. The front panel POWER SWITCH overrides this function. It must be ON for the +12V trigger to work. Turning the switch OFF cuts power to the amplifier, regardless of whether or not a trigger signal is present.

+12V Trigger Input and Output 8

The jack labeled IN is for connecting the 3.5mm Plug/Cable carrying a +12 volt trigger signal to turn the amplifier on and off. To use this feature the adjacent switch 7 must be set in the 12V TRIG position (see previous section). This input accepts any control signal (AC or DC) ranging from 3 volts to 30 volts.

The jack labeled OUT is for connecting another 3.5mm plug/cable to provide a 12V trigger signal to other components. The 12V output signal is available whenever a +12 volt trigger signal is applied to the IN connector.

Protection Indicators 3

Thermal and protection circuits protect the amplifier against potential damage in the event of extreme or faulty operating conditions. Unlike many designs, the RB-1091's protection circuit is independent of the audio signal and has no impact on sonic performance. Instead, the protection circuit monitors the temperature of the output devices and shuts down the amplifier if safe limits are exceeded.

In addition, the RB-1091 includes overcurrent protection which operates only when load impedances drop too low.

Should a faulty condition arise, the amplifier will stop playing and the PROTECTION LED on the front panel will light.

If this happens, turn the amplifier off, let it cool down for several minutes, and attempt to identify and correct the problem. When you turn the amplifier back on, the protection circuit will automatically reset and the PROTECTION LED should go out.

In most cases, the protection circuitry activates because of a fault condition such as shorted speaker wires, or inadequate ventilation leading to an overheating condition. In very rare cases, highly reactive or extremely low impedance speaker loads could cause the protection circuit to engage.

Input Signal Connection 4

See Figure 2

The RB-1091 has a standard unbalanced RCA-type input connector, the type used on nearly all audio equipment. This RCA input accept audio signals from preamplifiers or surround sound processors. Use high quality audio interconnect cables for best performance.

Speaker Connection

See Figure 2

The RB-1091 has two sets of dual binding post speaker connection terminals. In addition there is a four-contact Speakon® connector. Some speakers also have Speakon® connectors which make it easy to connect the speakers by simply plugging in wires that are terminated with Speakon® plugs. Even if your speakers do not have Speakon® connectors you can still use speaker wires that have Speakon® plugs on one end.

Speaker Selection

The nominal impedance of the loudspeaker(s) connected to the RB-1091 should be no lower than 4 ohms.

Speaker Wire Selection

Use insulated two-conductor stranded wire to connect the RB-1091 to the speakers. The size and quality of the wire can have an audible effect on the performance of the system. Standard speaker wire will work, but can result in lower output or diminished bass response, particularly over longer distances. In general, heavier wire will improve the sound. For best performance, you may want to consider special high-quality speaker cables. Your authorized Rotel dealer can help in the selection of appropriate cables for your system.

Polarity and Phasing

The polarity – the positive/negative orientation of the connections – for every speaker and amplifier connection must be consistent so all the speakers will be in phase. If the polarity of one connection is mistakenly reversed, bass output will be very weak and stereo imaging degraded. All wire is marked so you can identify the two conductors. There may be ribs or a stripe on the insulation of one conductor. The wire may have clear insulation with different color conductors (copper and silver). There may be polarity indications printed on the insulation. Identify the positive and negative conductors and be consistent with every speaker and amplifier connection.

If you are using Speakon® plugs be sure the wires are connected to the proper terminals on the plug.

Conventional Speaker Wire Connections 5

The RB-1091 has two sets of color coded terminals. Having two sets of terminals makes it easy to biwire a speaker. The speaker terminals accept bare wire, connector lugs, or "banana" type connectors (except in the European Community countries where their use is not permitted).

Route the wire(s) from the RB-1091 to the speakers. Give yourself enough slack so you can move the components to allow access to the speaker connectors.

If you are using banana plugs, connect them to the wires and then plug into the backs of the speaker connectors. When using banana plugs, the collars of the binding post terminals should be screwed in all the way (clockwise).

If you are using terminal lugs, connect them to the wires. If you are attaching bare wires directly to the speaker connectors, separate the wire conductors and strip back the insulation from the end of each conductor. Be careful not to cut into the wire strands. Unscrew (turn counterclockwise) the binding post collar. Place the connector lug around the shaft, or insert the bundled wire into the hole in the shaft. Turn the collars clockwise to clamp the connector lug or wire firmly in place.

NOTE: *Be sure there are no loose wire strands that could touch adjacent wires or connectors.*

Speakon® Speaker Connection 6

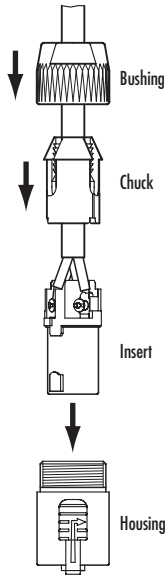
The RB-1091 has a four-contact Speakon® speaker connector. The four contact connectors make it easy to make biwire speaker connections. The connector on the RB-1091 also accepts two contact Speakon® connectors if you do not plan to biwire the speakers.

Pre-wired Speakon® connector cables are available. You may also wire your own cables using wire you choose.

Wiring Speakon® Connectors

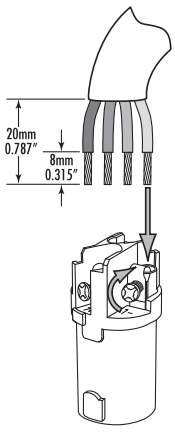
This information describes how to wire the NL4FC four-contact Speakon® connector. The NL2FC two-contact connector is connected in a similar way. See the instruction sheet that comes with the connector for more information, or go the manufacturer's web site, www.neutrik.com.

Place the bushing and chuck on the cable as shown before attaching the wires to the terminals on the insert.



Remove the outer jacket of the wire and strip the insulation from the wires as shown. Twist the wire strands together and insert it into the terminal. Tighten the terminal screw with a screw driver or a 1/16" allen wrench to clamp the cable wire in place.

The insert terminals are labeled 1+, 1–, 2+ and 2–. Connect the wires to the terminals of the connector insert for the other end of the cable before you assemble the connectors so you can be sure that each wire is connected to the corresponding terminal on each insert.



Push the insert all the way into the housing. Slide the chuck down the wire into place behind the insert. Thread the bushing onto the housing and tighten it so the chuck clamps the cable in place.

Troubleshooting

Most difficulties in audio systems are the result of poor or wrong connections, or improper control settings. If you encounter problems, isolate the area of the difficulty, check the control settings, determine the cause of the fault and make the necessary changes. If you are unable to get sound from the RB-1091, refer to the suggestions for the following conditions:

Front Panel Power Indicator Is Not Lit

No main power to the RB-1091. Check AC power connections at the amplifier and the AC outlet. Check the front panel power switch. Make sure that it is set to the ON position. If using 12V trigger power-on, make sure that a trigger signal is present at rear panel 12V TRIG IN jack.

No Sound

If the amp is getting AC power, but is producing no sound, check the PROTECTION INDICATOR on the front panel. If lit, see below. If not, check all of your connections and control settings on associated components. Make sure that your input connections and speaker connections match your system configuration.

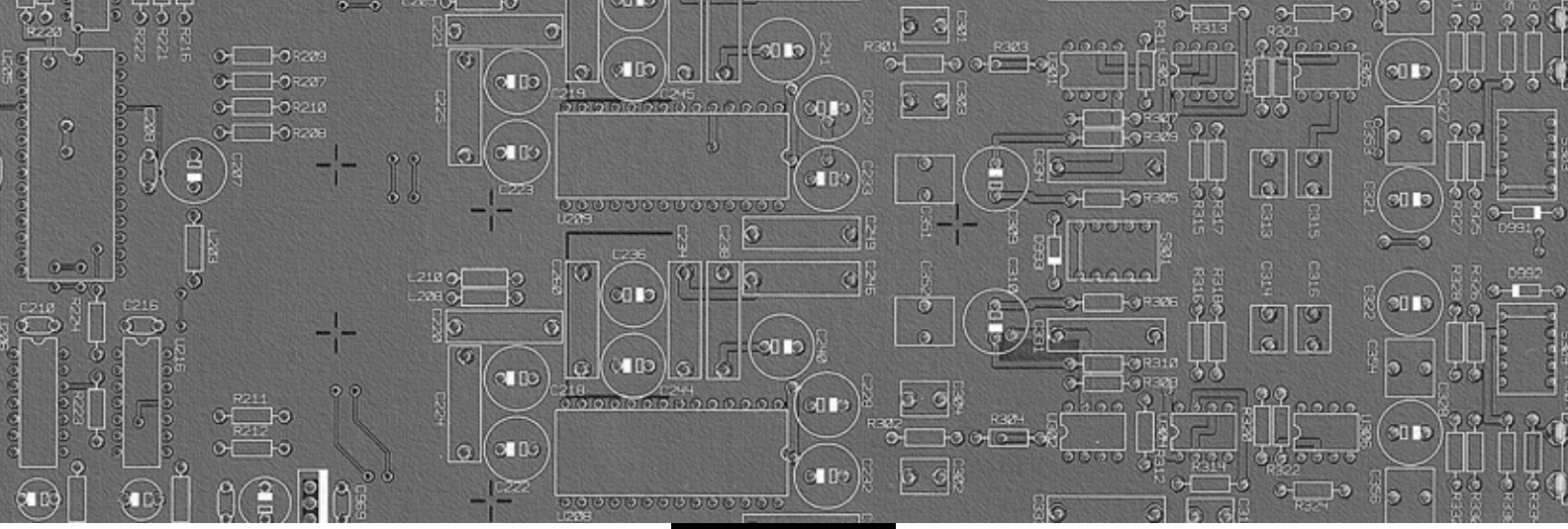
Protection Indicator Is Lit

The front panel PROTECTION INDICATOR will light when the RB-1091 protection circuits have shut off the amplifier. Typically, this occurs only when the amplifier has overheated, when there is faulty speaker wiring, or after a period of extreme use. Turn off the system and wait for the amp to cool. Then push the front panel power switch in and out to reset the protection devices. If the problem is not corrected or reoccurs, there is a problem with the system or the amplifier itself.

Specifications

Power Configurations	1 x 500 Watts
Watts/Channel	500 watts, with 20KHz filter, 8 ohm load, 20-20 kHz, 0.03% THD
Total Harmonic Distortion (20Hz-20kHz, 8 ohms)	
Continuous Rated Power	< 0.03%
One-Half Rated Power	< 0.03%
One Watt per Channel	< 0.03%
Power Output (4 Ohms, 0.09% THD)	1000 watts
Output Peak Current	40A
Intermodulation Distortion 60 Hz:7 kHz, 4:1	< 0.03%
Damping Factor (8 ohms)	400
Amp Gain	27.2dB
Input Sensitivity/Impedance	2.2 V / 11.1 k ohms
Frequency Response	10 - 40 KHz (±3dB)
Signal to Noise Ratio (IHF A)	118 dB
Power Requirements	
USA	120 Volts, 60 Hz
Europe	230 Volts, 50 Hz
Power Consumption	300 Watts
	34 Watts - Idling
	3 Watts - Standby
Dimensions (W x H x D)	432 x 92 x 407 mm
	$17^{1}/_{8}$ x $3^{5}/_{8}$ x $16^{1}/_{8}$ in
Panel Height (for rack mounting)	80 mm, $3^{1}/_{8}$ in
Weight (net)	7.8 kg, 17.2 lb.

All specifications are accurate at the time of printing.
Rotel reserves the right to make improvements without notice.



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